

WHAT IS CLAIMED IS:

- 1 1. A method for profiling network flows at a measurement point
2 within a computer network, the method comprising:
3 measuring network flows having invariant features at a measurement
4 point located within routing infrastructure of the computer network to obtain flow
5 statistics; and
6 aggregating the flow statistics to obtain a traffic profile of the
7 network flows at the measurement point.
- 1 2. The method as claimed in claim 1 wherein the step of
2 aggregating is based on at least one of the invariant features.
- 1 3. The method as claimed in claim 2 wherein the at least one
2 invariant feature is either a source endpoint or a destination endpoint and wherein
3 the step of aggregating is based on distance of the measurement point from the
4 endpoint.
- 1 4. The method as claimed in claim 1 wherein the invariant
2 features include source and destination endpoints.
- 1 5. The method as claimed in claim 4 further comprising
2 identifying typical traffic source and destination pairs for network flows that transit
3 the measurement point based on the source and destination endpoints.
- 1 6. The method as claimed in claim 4 wherein the invariant
2 features include protocol type.
- 1 7. The method as claimed in claim 6 wherein the invariant
2 features include port information.
- 1 8. The method as claimed in claim 1 wherein the step of
2 aggregating is based on temporal, static network and dynamic routing parameters.

1 9. The method as claimed in claim 1 further comprising
2 identifying desired network flow characteristics based on dynamic routing and
3 topology information.

1 10. The method as claimed in claim 1 wherein the computer
2 network is the Internet.

1 11. A system for profiling network flows at a measurement point
2 within a computer network, the system comprising:

3 means for measuring network flows having invariant features at a
4 measurement point located within routing infrastructure of the computer network
5 to obtain flow statistics; and

6 means for aggregating the flow statistics to obtain a traffic profile of
7 the network flows at the measurement point.

1 12. The system as claimed in claim 11 wherein the flow statistics
2 are aggregated based on at least one of the invariant features.

1 13. The system as claimed in claim 12 wherein the at least one
2 invariant feature is either a source endpoint or a destination endpoint and wherein
3 the flow statistics are aggregated based on distance of the measurement point from
4 the endpoint.

1 14. The system as claimed in claim 11 wherein the invariant
2 features include source and destination endpoints.

1 15. The system as claimed in claim 14 further comprising means
2 for identifying typical traffic source and destination pairs for network flows that
3 transit the measurement point based on the source and destination endpoints.

1 16. The system as claimed in claim 14 wherein the invariant
2 features include protocol type.

1 17. The system as claimed in claim 16 wherein the invariant
2 features include port information.

1 18. The system as claimed in claim 11 wherein the flow statistics
2 are aggregated based on temporal, static network and dynamic routing parameters.

1 19. The system as claimed in claim 11 further comprising means
2 for identifying desired network flow characteristics based on dynamic routing and
3 topology information.

1 20. The system as claimed in claim 11 wherein the computer
2 network is the Internet.

1 21. The method as claimed in claim 3 wherein level of route
2 aggregation is a measure of the distance.

1 22. The method as claimed in claim 3 further comprising utilizing
2 physical and logical router interfaces at a highest level of aggregation.

1 23. The method as claimed in claim 3 wherein the distance is a
2 logical distance with respect to forwarding topology.

1 24. The system as claimed in claim 11 wherein the system is
2 capable of adapting to system resources in a dynamic fashion by reassignment of
3 system resources to deal with possible aggregation levels.